

1. An apparatus for selecting storage media scaling to improve data access performance, the apparatus comprising:

a reception module configured to receive a dataset for storage on a storage medium;

an identification module configured to identify storage characteristics of the dataset; and

a scaling module configured to select a storage instruction in response to storage criteria applied to the storage characteristics.

2. The apparatus of claim 1, wherein the storage instruction comprises an instruction to scale the storage medium to a predefined capacity for optimal data access performance.

3. The apparatus of claim 1, wherein the storage instruction comprises an instruction to not scale the storage medium.

4. The apparatus of claim 1, further comprising a determination module configured to store a plurality of predefined storage criteria and compare the storage characteristics of the received dataset with the predefined storage criteria to determine the storage instruction.

5. The apparatus of claim 1, further comprising a mapping module configured to track capacity information for the storage medium that stores the dataset.

6. The apparatus of claim 1, wherein the scaling module is configured to communicate the selected instruction to a storage medium controller.

7. A system for scaling a storage medium to improve data access performance, the system comprising:

- a network configured to communicate data;
- a storage controller coupled to the network;
- a storage device having a storage medium configured to store data received from the controller over the network;
- a host coupled to the network, the host configured to exchange data with the controller;
- an application operating within the host, the application configured to produce a dataset to be stored on the storage medium; and
- a scaling module configured to communicate with the application and select a storage instruction in response to storage criteria applied to storage characteristics of the dataset.

8. The system of claim 7, wherein the storage instruction comprises an instruction to scale the storage medium to a predefined capacity for optimal data access performance.

9. The system of claim 7, wherein the storage instruction comprises an instruction to not scale the storage medium.

10. The system of claim 7, wherein the scaling module is configured to store a plurality of predefined storage criteria and compare the storage characteristics of the dataset with the predefined storage criteria to determine the storage instruction.

11. The system of claim 7, wherein the storage controller is configured to receive the storage instruction and execute the storage instruction.

12. The system of claim 7, wherein the scaling module operates within the host.

13. The system of claim 7, wherein the scaling module operates within the storage controller.

14. The system of claim 7, wherein the scaling module operates within the storage device.

15. A computer readable storage medium comprising computer readable code configured to carry out a method for selecting storage medium scaling to improve data access performance, the method comprising:

receiving a dataset to be stored on a storage medium;

identifying storage characteristics of the dataset;

determining based on storage criteria and the storage characteristics whether to scale the storage medium that will store the dataset; and

selecting instructions to scale the storage medium according to the determination.

16. The computer readable storage medium of claim 15, wherein the method further comprises defining a plurality of storage characteristics as storage characteristics that require storage on optimally scaled storage medium.

17. The computer readable storage medium of claim 15, wherein the method further comprises defining a plurality of storage characteristics as storage characteristics that require storage on maximum capacity storage medium.

18. The computer readable storage medium of claim 15, wherein determining further comprises identifying storage characteristics that satisfy storage criteria for storing the dataset on optimally scaled storage medium.

19. The computer readable storage medium of claim 15, wherein determining further comprises identifying storage characteristics that satisfy storage criteria for storing the dataset on maximum capacity storage medium.

20. The computer readable storage medium of claim 15, wherein the method further comprises tracking capacity information for the storage medium that stores the dataset.